

Amendments to the CLAIMS:

Without prejudice, this listing of the claims replaces all prior versions and listings of the claims in the present application:

LISTING OF CLAIMS:

- 1-14. (Canceled).
15. (Currently Amended) A gas sensor for measuring at least one gas concentration for a vehicle climate control system, comprising:
 - a substrate;
 - an IR radiation source fastened on the substrate;
 - an IR detector fastened on the substrate;
 - a measurement chamber for receiving a gas having the gas concentration that is to be measured;
 - a shielding device situated in the measurement chamber between the IR radiation source and the IR detector, for shielding a direct transmission of IR radiation from the IR radiation source to the IR detector along an optical axis; and
 - a reflective surface that has a concavely curved first mirrored area for receiving the IR radiation emitted by the IR radiation source, and that has a concavely curved second mirrored area that reflects the IR radiation to the IR detector, wherein the measurement chamber is formed between the reflective surface and the substrate;
wherein the IR radiation source emits IR radiation at an angle of incidence of less than 45° to the first mirrored area.
16. (Previously Presented) The gas sensor as recited in Claim 15, wherein the first mirrored area and the second mirrored area are fashioned with a spherical cross-section.
17. (Previously Presented) The gas sensor as recited in Claim 16, wherein the reflective surface is fashioned so as to be essentially semicircular.
18. (Previously Presented) The gas sensor as recited in Claim 16, wherein the reflective surface has a first spherical mirrored area, a second spherical mirrored area situated at

a distance from the first spherical mirrored area in the direction of the optical axis, and a flat middle mirrored area that connects the spherical mirrored areas.

19. (Previously Presented) The gas sensor as recited in Claim 15, wherein the IR radiation source and the IR detector are adjacent to the reflective surface.
20. (Canceled).
21. (Previously Presented) The gas sensor as recited in Claim 15, wherein the reflective surface has a first parabolic mirrored area in whose focus the IR radiation source is situated, and has a second parabolic mirrored area in whose focus the IR detector is situated.
22. (Previously Presented) The gas sensor as recited in Claim 21, wherein the parabolic mirrored areas are situated at a distance from one another in the direction of the optical axis, and are connected via a straight surface area.
23. (Previously Presented) The gas sensor as recited in Claim 22, wherein the straight surface area is fashioned as a reflecting mirrored area.
24. (Previously Presented) The gas sensor as recited in Claim 15, wherein the shielding device is fashioned at or as part of the IR radiation source as a small housing that surrounds an IR lamp.
25. (Previously Presented) The gas sensor as recited in Claim 15, wherein the shielding device is fashioned at or as part of the IR detector as a small housing that surrounds the IR detector.
26. (Previously Presented) The gas sensor as recited in Claim 15, wherein the substrate is a circuit board.
27. (Previously Presented) The gas sensor as recited in Claim 15, wherein the reflective surface extends uniformly in a longitudinal direction that is parallel to the substrate surface and that runs orthogonal to the optical axis.
28. (New) The gas sensor as recited in Claim 15, wherein the first mirrored area and the second mirrored area are fashioned with a spherical cross-section, wherein the

reflective surface has a first spherical mirrored area, a second spherical mirrored area situated at a distance from the first spherical mirrored area in the direction of the optical axis, and a flat middle mirrored area that connects the spherical mirrored areas, and wherein the IR radiation source and the IR detector are adjacent to the reflective surface.

29. (New) The gas sensor as recited in Claim 15, wherein the reflective surface has a first parabolic mirrored area in whose focus the IR radiation source is situated, and has a second parabolic mirrored area in whose focus the IR detector is situated, wherein the parabolic mirrored areas are situated at a distance from one another in the direction of the optical axis, and are connected via a straight surface area, and wherein the straight surface area is fashioned as a reflecting mirrored area.
30. (New) The gas sensor as recited in Claim 29, wherein the shielding device is fashioned at or as part of the IR radiation source as a small housing that surrounds an IR lamp.
31. (New) The gas sensor as recited in Claim 29, wherein the shielding device is fashioned at or as part of the IR detector as a small housing that surrounds the IR detector.
32. (New) The gas sensor as recited in Claim 29, wherein the reflective surface extends uniformly in a longitudinal direction that is parallel to the substrate surface and that runs orthogonal to the optical axis.
33. (New) The gas sensor as recited in Claim 29, wherein a single IR radiation source and at least two detectors situated one after the other in the longitudinal direction are provided.
34. (New) The gas sensor as recited in Claim 28, wherein the shielding device is fashioned at or as part of the IR radiation source as a small housing that surrounds an IR lamp.
35. (New) The gas sensor as recited in Claim 28, wherein the shielding device is fashioned at or as part of the IR detector as a small housing that surrounds the IR detector.

36. (New) The gas sensor as recited in Claim 28, wherein the reflective surface extends uniformly in a longitudinal direction that is parallel to the substrate surface and that runs orthogonal to the optical axis.
37. (New) The gas sensor as recited in Claim 28, wherein a single IR radiation source and at least two detectors situated one after the other in the longitudinal direction are provided.